

A B S T R A C T

A CURRENT LOOP OF THE 4 mA - 20 mA TYPE OR OF THE 0 - 20 mA TYPE AND INCLUDING A PARALLEL TEST CIRCUIT

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The 4 mA - 20 mA type or 0 - 20 mA type current loop connects an analog sensor (1) to an acquisition system (3), respectively carrying a sensor current (I_c) and an acquisition current (I_a). A test circuit is connected in parallel with the current loop to inject a superposition current (I_s) into said loop, which current is superposed on the sensor current (I_c) or on the acquisition current (I_a). In a first embodiment, a variable voltage generator (7) injects the superposition current (I_s) by adding it to the acquisition current (I_a), thereby making it possible to check a low-current threshold of the acquisition system (3). In a second embodiment, a variable current regulator injects the superposition current (I_s) by adding it to the sensor current (I_c), thereby making it possible to check a high-current threshold of the acquisition system. The high- and low-current thresholds of the acquisition system are tested without opening the current loop.

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